

1 In The Claims:

2 1. An apparatus for suggesting available content in a digital communications network,  
3 comprising:

4 a content metadata crawler that searches metadata related to the available content and  
5 produces a metadata list, wherein the metadata list comprises a plurality of metadata  
6 elements, and wherein each metadata element comprises one or more metadata fields;

7 a suggestion keyword indexer coupled to the content metadata crawler, wherein the  
8 suggestion keyword indexer receives the metadata list and indexes the metadata elements;

9 a suggestion database coupled to the suggestion keyword indexer that stores the  
10 indexed metadata elements; and

11 a suggestion database processor coupled to the content metadata crawler, the  
12 suggestion keyword indexer and the suggestion keyword database, wherein the suggestion  
13 database processor searches the suggestion database, based on one or more search request  
14 criteria, to produce a list of keywords to be used to suggest content.

15 2. The apparatus of claim 1, wherein the suggestion keyword indexer, comprises:

16 an extraction module that extracts and caches a value of each metadata field;

17 a parsing module coupled to the extraction module that parses contents of uniquely  
18 identifying metadata fields, wherein the contents of a uniquely identifying field comprises  
19 one or more word items;

20 a classifying module coupled to the parsing module that classifies one or more of the  
21 one or more word items;

22 a comparison module coupled to the classifying module that compares one or more of  
23 the one or more word items to determine a list of related terms; and

24 an index matrix record builder that creates and augments an index matrix record for  
25 each of the classified word items.

26 3. The apparatus of claim 2, further comprising one or more of a dictionary database, a  
27 thesaurus database and a lexicon database, wherein the comparison module compares a word  
28 item to entries in one or more of the dictionary database, the thesaurus database and the  
29 lexicon database, and wherein the list of related terms includes one or more of a dictionary  
30 definition, lexicon data, and one or more synonyms.

1 4. The apparatus of claim 2, wherein the classifying module comprises one or more  
2 computational linguistics tools, including a rule-based part-of-speech tagging algorithm and a  
3 stochastic part-of-speech tagging algorithm, wherein the one or more computational  
4 linguistic tools determine part-of-speech data of a word item, and wherein the index matrix  
5 record builder adds the part-of-speech data to the index matrix record for the word item.

6 5. The apparatus of claim 2, wherein the uniquely identifying fields comprise one or  
7 more of content type, content title, date of production, rating and parental notice information,  
8 performer, artist, writer, author, plot summary, keyword list, and textual content description.

9 6. The apparatus of claim 2, wherein the index matrix record builder comprises a vector  
10 assignment module that assigns a word item vector value for a word item, wherein the word  
11 item vector value may be used as a measure of similarity between a word item and a related  
12 term.

13 7. The apparatus of claim 6, wherein the suggestion database processor, comprises:  
14 a vector determination module that assigns a search term suggestion vector range to  
15 one or more of the search request criteria; and

16 a vector value comparator that compares a vector value of a search term and the word  
17 item vector value to determine if the word item vector value falls within the suggestion  
18 vector range of the search term, wherein word items that fall within the suggestion vector  
19 range may be used to search for suggested content.

20 8. The apparatus of claim 7, wherein the suggestion vector range is adjustable by a user  
21 of the apparatus.

22 9. The apparatus of claim 8, further comprising a user-defined filter, comprising:

23 a user history filter;

24 a user profile filter; and

25 an approved content access filter, wherein the suggestion database processor  
26 processes search results from the suggestion database using the user-defined filter to produce  
27 the list of suggested content.

28 10. The apparatus of claim 9, further comprising a ranking module, wherein the ranking  
29 module ranks content in the list of suggested content.

1 11. The apparatus of claim 10, where in the ranking module ranks the content according  
2 to one or more of a user historical analysis report and similarities to previously accessed  
3 content by the user.

4 12. A method for suggesting available content in a digital communications network,  
5 comprising:

6 receiving a search request from a user of the digital communications network;

7 comparing the search request to a database of indexed metadata elements;

8 caching indexed metadata elements that satisfy the search request;

9 retrieving a user profile for the user; and

10 filtering the cached metadata elements according to the user profile.

11 ranking the filtered metadata elements; and

12 providing the ranked metadata elements to a search request processor as criteria for  
13 returning suggested content.

14 13. The method of claim 12, wherein the database of indexed metadata elements,  
15 comprises one or more of content type, content title, date of production, rating and parental  
16 notice information, performer, artist, writer, author, plot summary, keyword list, and textual  
17 content description.

18 14. A method for suggesting available content in a digital communications network,  
19 comprising:

20 constructing a database of indexed metadata elements;

21 receiving a content search request from a user of the digital communications network;

22 comparing the search request to the database of indexed metadata elements;

23 caching indexed metadata elements that satisfy the search request;

24 retrieving a user profile for the user;

25 filtering the cached metadata elements according to the user profile;

26 ranking the filtered metadata elements; and

27 providing the ranked metadata elements to a search request processor as criteria for  
28 returning suggested content.

29 15. The method of claim 14, wherein constructing the database of indexed metadata  
30 elements, comprises:

31 opening one or more metadata records in the content metadata database;

1 for a current one of the one or more metadata records,  
2 determining if end-of-file has been reached,  
3 reading an entire metadata entry of the current metadata record, wherein the  
4 current metadata record comprises one or more of one or more non-uniquely  
5 identifying fields and one or more uniquely identifying fields, and wherein each of the one  
6 or more uniquely identifying fields comprises one or more terms,  
7 extracting and caching a value for each term for one or more of the one or  
8 more uniquely identifying fields, and  
9 parsing and caching terms of each of the uniquely identifying fields.

10 16. The method of claim 15, further comprising, for each cached term:

11 determining if an index record exists for the cached term; and  
12 if no index record exists, creating an index matrix record, and  
13 adding the cached value to the index matrix record.

14 17. The method of claim 16, wherein creating the index matrix record, comprises:

15 determining a part of speech of the term to determine part of speech data;  
16 comparing the term to thesaurus data to determine similar terms, and  
17 storing the part of speech data and the similar terms as the index matrix record.

18 18. The method of claim 15, wherein a metadata crawler crawls a content metadata  
19 database of indexed metadata elements to construct the database of indexed metadata  
20 elements.

21 19. The method of claim 18, wherein the metadata crawler crawls the content metadata  
22 database continually.

23 20. The method of claim 18, wherein the metadata crawler crawls the content metadata  
24 database when directed by a metadata processor.

25 21. An apparatus for suggesting available content in a digital communications network,  
26 comprising:

27 first searching means for searching metadata related to the available content and  
28 producing a metadata list, wherein the metadata list comprises a plurality of metadata  
29 elements, and wherein each metadata element comprises one or more metadata fields;

30 means, coupled to the first searching means, for receiving the metadata list and  
31 indexing the metadata elements;

means, coupled to the indexing means, for storing the indexed metadata elements; and  
second searching means, coupled to the first searching means, for searching the  
storing means, based on one or more search request criteria, to produce a list of metadata  
elements to be used to suggest content.

22. The apparatus of claim 21, wherein the indexing means, comprises:

extraction means for extracting and caching a value of each metadata field;

parsing means coupled to the extraction means, for parsing contents of uniquely  
identifying metadata fields, wherein the contents of a uniquely identifying field comprises  
one or more word items;

classifying means, coupled to the parsing means, for classifying one or more of the  
one or more word items;

comparing means coupled to the classifying means for comparing one or more of the  
one or more word items to determine a list of related terms; and

means for creating and augmenting an index matrix record for each of the classified  
word items.

23. The apparatus of claim 22, further comprising one or more of a dictionary database, a  
thesaurus database and a lexicon database, wherein the comparing means compares a word  
item to entries in one or more of the dictionary database, the thesaurus database and the  
lexicon database, and wherein the list of related terms includes one or more of a dictionary  
definition, lexicon data, and one or more synonyms.

24. The apparatus of claim 22, wherein the classifying module comprises means for  
analyzing linguistics.

25. The apparatus of claim 24, wherein the means for analyzing linguistics comprises one  
or more computational linguistics tools, including a rule-based part-of-speech tagging  
algorithm and a stochastic part-of-speech tagging algorithm, wherein the one or more  
computational linguistic tools determine part-of-speech data of a word item, and wherein  
means for creating and augmenting an index matrix record adds the part-of-speech data to the  
index matrix record for the word item.

26. The apparatus of claim 22, wherein the uniquely identifying fields comprise one or  
more of content type, content title, date of production, rating and parental notice information,  
performer, artist, writer, author, plot summary, keyword list, and textual content description.

1 27. The apparatus of claim 22, wherein the means for creating and augmenting an index  
2 matrix record comprises means for assigning a word item vector value for a word item,  
3 wherein the word item vector value may be used as a measure of similarity between a word  
4 item and a related term.

5 28. The apparatus of claim 27, wherein the second searching means, comprises:  
6 means for assigning a search term suggestion vector range to one or more of the  
7 search request criteria; and  
8 means for comparing a vector value of a search term and the word item vector value  
9 to determine if the word item vector value falls within the suggestion vector range of the  
10 search term, wherein word items that fall within the suggestion vector range may be used to  
11 search for suggested content.

12 29. The apparatus of claim 28, wherein the suggestion vector range is adjustable by a user  
13 of the apparatus.

14 30. The apparatus of claim 29, further comprising means for filtering search results.

15 31. The apparatus of claim 30, wherein the means for filtering search results, comprises:  
16 a user history filter;  
17 a user profile filter; and  
18 an approved content access filter, wherein the means for creating and augmenting an  
19 index matrix record processes search results from the means for storing the indexed metadata  
20 elements using the user-defined filter to produce the list of suggested content.

21 32. The apparatus of claim 31, further comprising means for ranking content in the list of  
22 suggested content.

23 33. The apparatus of claim 32, where in the ranking means ranks the content according to  
24 one or more of a user historical analysis report and similarities to previously accessed content  
25 by the user.